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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,513	07/29/2003	Marie-Claire Cyrille	HSJ920030051US1	6917

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EXAMINER
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WATKO, JULIE ANNE

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/629,513

Applicant(s)

CYRILLE ET AL.

Examiner

Julie Anne Watko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of group I, claims 1-8 and 13-20 in the reply filed on January 4, 2005, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 9-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 4, 2005.

### ***Claim Objections***

3. Claim 13 is objected to because of the following informalities:

Claim 13 recites the limitation "a magnetic read head comprising ... at least one controller" in lines 1-4. It is clear from the appearance of Fig. 1 that the controller does not constitute part of the head. See especially arm 16, which clearly separates head 14 from controller 18.

Appropriate correction is required.

The Examiner shall treat the "controller" limitation as an intended use for the claimed head.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 7, 13-14, 16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Pinarbasi (US Pat. No. 6813121 B2).

Due to similarities in the claimed structures, the independent claims are treated together.

As recited in claims 1 and 13, Pinarbasi shows a magnetic read head comprising at least one sensing structure 35 supported by a substrate (see 31, for example); at least one hard bias magnet layer (33A, for example) juxtaposed with the sensing structure; at least one controller (“arm electronics (not shown)”, see col. 1, line 25) receiving signals from the sensing structure representative of data stored on a magnetic disk closely spaced from the sensing structure; and a lead structure connecting the sensing structure to the controller, the lead structure including at least a first lead layer (any of 37, 38 or 39) juxtaposed with the sensing structure; and at least a second lead layer (any other of 37, 38 or 39) juxtaposed with the first lead layer.

The product by process limitations in these claims (e.g. “polish”, “removal”) are directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final structure of the product “gleaned” from the process limitations or steps, which must be determined in a “product by process” claim, and not the patentability of the process limitations. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claimed in “product by

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process” claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear.

As recited in claims 2 and 14, Pinarbasi shows that the first lead layer is (inherently) electrically connected at least to the sensing structure and the second lead layer is (inherently) electrically connected at least to the first lead layer.

As recited in claims 3 and 16, Pinarbasi shows that the first lead layer 39 includes Rhodium (Rh) and the second lead layer 37 includes Tantalum (Ta).

As recited in claims 7 and 19, Pinarbasi shows at least one hard bias magnet layer 33A under the first lead layer (37, for example) opposite the second lead layer (38, for example).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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8. Claims 1-2, 4-6, 8, 13-15, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al (US PAP No. 2004/0027731 A).

As recited in claims 1 and 13, Hasegawa et al show a magnetic read head comprising at least one sensing structure (including 21-27) supported by a substrate 20; at least one controller receiving signals from the sensing structure representative of data stored on a magnetic disk closely spaced from the sensing structure; and a lead structure connecting the sensing structure to the controller, the lead structure including at least a first lead layer (either 43 or 46) juxtaposed with the sensing structure; and at least a second lead layer (the other of 46 and 43) juxtaposed with the first lead layer.

As recited in claims 1 and 13, Hasegawa et al are silent regarding at least one hard bias magnet layer juxtaposed with the sensing structure.

Official notice is taken of the fact that it was known in the art at the time the invention was made to replace antiferromagnetic bias layers with hard bias layers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the AFM layers 31 of Hasegawa et al with hard bias layers as is notoriously well known in the art. The rationale is as follows: one of ordinary skill in the art would have been motivated to simplify fabrication by eliminating a blocking step as is notoriously well known in the art.

The product by process limitations in these claims (e.g., “polish”, “removal”) are directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal

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with this issue); *In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final structure of the product “gleaned” from the process limitations or steps, which must be determined in a “product by process” claim, and not the patentability of the process limitations. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claimed in “product by process” claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear.

As recited in claims 2 and 14, Hasegawa et al show that the first lead layer 46 is (inherently) electrically connected at least to the sensor and the second lead layer 43 is (inherently) electrically connected at least to the first lead layer.

As recited in claims 4 and 15, Hasegawa et al show that the first and second lead layers include materials chosen from the following respective combinations: Tantalum (Ta)/Tungsten (W), Tantalum (Ta)/Copper (Cu), Gold (Au)/Copper (Cu) (“The first electrode layers are preferably made of an alloy material composed of Au and at least one of Pd, Cr, and Cu, or at least one of Cr, Rh, Ru, Ta, and W, and the second electrode layers are preferably made of at least one of Au, Cu, and Ag”, see ¶ 0035, emphasis added), and Rhodium (Rh)/Aluminum (Al).

Regarding claims 5 and 17: It appears from Fig. 3 that first lead layer 46 defines a thickness substantially equal to the thickness of the sensor (21-27). Even if Fig. 3 were not drawn to scale, the law is replete with cases in which when the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found. See *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984).

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As recited in claim 6 and 18, Hasegawa et al show that the second lead layer 43 is recessed (see Fig. 3) away from the sensor (including 21-27) relative to the first lead layer 46.

As recited in claims 8 and 20, Hasegawa et al show at least one upper protective layer 39 covering the second lead layer 46 opposite the first lead layer 43.

9. Claims 5 and 17 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pinarbasi (US Pat. No. 6813121 B2).

Pinarbasi shows a head as described above.

Regarding claims 5 and 17: It appears from Fig. 2 of Pinarbasi that the first lead layer 39 defines a thickness and the sensor 35 defines a thickness substantially equal to the thickness of the first lead layer. Even if Fig. 2 were not drawn to scale, the law is replete with cases in which when the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found. See Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Fed. Cir. 1984).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hasegawa et al (US PAP No. 2003/0058587 A1) show a magnetic sensing element (see Fig. 4) comprising lead layer 30 (see ¶ 0177, “formed from, for example, Au, W, Cr, Ru and Ta”) and lead layer 35 (“made of a material such as Ta”, see ¶ 0243).

Terunuma et al (US PAP No. 2003/0053265 A1) show a thin film magnetic head (see Fig. 4) comprising Au lead layers (e.g., 351, 352, 361, 362) and hard films (e.g. 363, 354, 363, 364, “made of a material larger in hardness than Au”, see ¶ 0092).



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11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Tues. & Thurs. until 9PM, Wed. & Fri. until 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Julie Anne Watko  
Primary Examiner  
Art Unit 2653

June 15, 2005  
JAW

A handwritten signature in black ink, appearing to read 'Julie Anne Watko', is written over the printed name and title.